



# Preliminary Ecological Appraisal

Livesey Street, Sheffield

On behalf of Green Frog Power (Livesey Street) Limited

Issue: 1

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# Version Control

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# 1 Introduction

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## 1.1 Background

Green Frog Power Limited (“the client”) instructed Harper Environmental Ltd to carry out a Preliminary Ecological Appraisal (PEA) (‘the report’) for a proposed development of land at Livesey Street, Sheffield (hereafter called ‘the Site’). The central Ordnance grid reference for the Site is SK 33975 90088.

## 1.2 The Site

The Site comprises an area of land immediately to the east of Owlerton Stadium, a greyhound race track. It is enclosed by a 2m high concrete panel fence which is intact and secure with no connectivity to adjacent land apart from one small 1.5m wide section where concrete panels have given way creating a hole (with soil and landfilled rubbish hanging through the hole). There is also a gap beneath a gateway at the southern boundary of the Site.

Historically a review of satellite imagery available on Google Earth shows the Site was divided into four cellular race tracks for small animals (with grassed surfacing) in the north. A larger race track was present in the centre and south of the Site, originally grassed and later becoming bare ground. A rubbish tip was present in the north-east corner which slowly expanded over time into the adjacent small racetrack cells.

There are no buildings onsite. The Site is reportedly in use for drag racing and associated event vehicles, with waste storage in a few locations around the perimeter and notably in the north-east corner where a landfill is present.

The Site is set within a largely industrial / commercial setting. In the surrounds, to the north beyond the concrete panel fence lies a large carpark and beyond that an industrial unit. To the west lies the Owlerton Stadium and assorted outbuildings. The Site is bordered to the east and south by Livesey Street, beyond which to the east lies a National Grid Transmission Substation and the River Don river corridor. To the south beyond Livesey Street lie a college and associated carparking, a football pitch and further commercial / industrial buildings.

## 1.3 The Proposed Development

The proposed development comprises:

*Installation of three air core reactors, switchrooms, with ancillary infrastructure and associated works including new access onto Livesey Street, erection of a security fence, internal drives and cable connection to Neepsend Substation to supply reactive absorption grid stability to the National grid as part of Voltage 2026 initiative.*

## 1.4 Purpose of the Report

This report sets out to:

- Establish the ecological baseline for the Site;
- Identify any ecological receptors which might be affected by the proposed development;

- Assess the potential impacts of the proposed development on the identified ecological receptors;
- Make recommendations to avoid, mitigate or compensate for any ecological impacts identified; and
- Propose measures to benefit biodiversity as part of the scheme.

This report was informed by a desk study and a site walkover including assessment for potential presence of protected species. The methodology is set out in Section 2, and the results are reported in Section 3. The ecological assessment is presented in Section 4, setting out the ecological baseline and making recommendations for mitigation and enhancement. A summary of the PEA is presented in Section 5.

## 1.5 Wildlife legislation

The following wildlife legislation is potentially relevant to the Proposed Development:

- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Countryside and Rights of Way (CRoW) Act 2000;
- The Natural Environment and Rural Communities (NERC) Act 2006; and
- The Conservation of Habitats & Species Regulations 2017.

The above legislation has been considered when planning and undertaking this Ecological Impact Assessment, using the methods described in Section 2, when identifying potential constraints to the proposed development, and when making recommendations for further survey, mitigation and enhancement as discussed in Section 4.

## 2 Methodology

The PEA was undertaken in accordance with guidance in the UK Habitat Classification System (UKHab)<sup>1</sup> and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal<sup>2</sup>, in accordance with BS42020:2013: Biodiversity<sup>3</sup>.

### 2.1 Desk Study

The purpose of the desk study was to collect existing baseline data about the site and the surrounding area, for example the location of designated sites or other natural features of potential ecological value such as woodland and ponds.

The sources of data used to inform the report are detailed in Table 1 below.

Source	Information	Date reviewed
Multi-Agency Geographic Information for the Countryside (MAGIC) website	<ul style="list-style-type: none"> <li>o International and national statutory designations within 5 km</li> <li>o Other statutory designations within 2 km</li> <li>o Information on habitats and habitat connections (based on aerial photography)</li> <li>o Presence of notable species (where information available)</li> <li>o Protected species licensing</li> </ul>	08/04/24
Sheffield Biological Records Centre data search	<ul style="list-style-type: none"> <li>o International and national statutory designations within 2 km</li> <li>o Other statutory and non-statutory designations within 2 km</li> <li>o Protected and notable species records within 2 km</li> <li>o Ancient woodlands and notable habitats within 2 km</li> <li>o Invasive species within 2 km</li> </ul>	23/04/24
Ordnance Survey 1:25000 Pathfinder maps and aerial photography	<ul style="list-style-type: none"> <li>o Information on habitats and habitat connections (based on aerial photography) relevant to interpretation of planning policy and assessment of potential protected and notable species constraints</li> </ul>	08/04/24
Sheffield Biodiversity Action Plan (LBAP)	<ul style="list-style-type: none"> <li>o General information on Local Biodiversity Action Plan Priority Habitats and Species</li> </ul>	22/04/24

### 2.2 Onsite Survey

#### 2.2.1 Flora

The extent and distribution of different habitats on Site were identified and mapped according to the standard UKHab Survey methodology. Secondary codes were used to describe additional plant associations (such as ruderal / ephemeral) and habitat management. Any protected plant species and invasive/non-natives were also noted.

<sup>1</sup> UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>)

<sup>2</sup> CIEEM (2017); Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester

<sup>3</sup> BSI (2013); British Standard 42020:2013: Biodiversity —Code of practice for planning and development, BSI Standards Publication

## 2.2.2 Fauna

The Site was assessed for its potential to support notable, rare and protected species.

The likelihood of occurrence is ranked as follows:

- Negligible - While presence cannot be absolutely discounted, the site includes very limited or poor-quality habitat for a particular species. The site may also be outside the known national range for a species;
- Low - On-site habitat is poor to moderate quality for a given species, with few or no information about their presence from desk top study. However, presence cannot be discounted due to the national distribution of the species or the nature of on-site and surrounding habitats;
- Moderate - The on-site habitats are of moderate quality, providing most or all of the key requirements for a species. Several factors may limit the likelihood of occurrence, habitat severance, habitat disturbance and small habitat area;
- High - On-site habitat of high quality for given species. Site is within a regional or national stronghold for that particular species with good quality surroundings and good connectivity; and
- Present - Presence confirmed for the survey itself or recent, confirmed records from information gathered through desk top study.

The species surveyed for included:

- ██████████
- Bats
  - Great crested newt
  - Water vole
  - Otter
  - Reptiles
  - Birds
  - Invertebrates.

Where these were encountered, field signs recorded have been described in Section 3.

## 2.3 Surveyors

Stephanie Harper, who undertook the site survey and wrote this report, has a BSc (Hons) and PhD in Environmental Sciences, and holds a Natural England Level 1 class licence for bats. She has 18 years of experience in ecological survey and consultancy.

This report was written by Stephanie Harper who hereby confirms in writing that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

## 2.4 Constraints

The survey was undertaken on the 10<sup>th</sup> April 2024. The Site was fully accessible and weather conditions were ideal.

Given the limited natural habitats onsite of low distinctiveness, although the survey was undertaken in April 2024 outside the optimal survey season, it was possible to accurately characterise the habitats and potential for protected species onsite.

Therefore there were no significant constraints that stand to impact the conclusions drawn in this report.



### 3 Results

#### 3.1 Desk Study

##### 3.1.1 Designations onsite

There are no statutory or non-statutory designations within the boundary of the site.

##### 3.1.2 Designations in the surrounds

A map of Statutory and Local Wildlife Sites (LWS) was provided by SBRC and is shown as Figure 3.1 below.

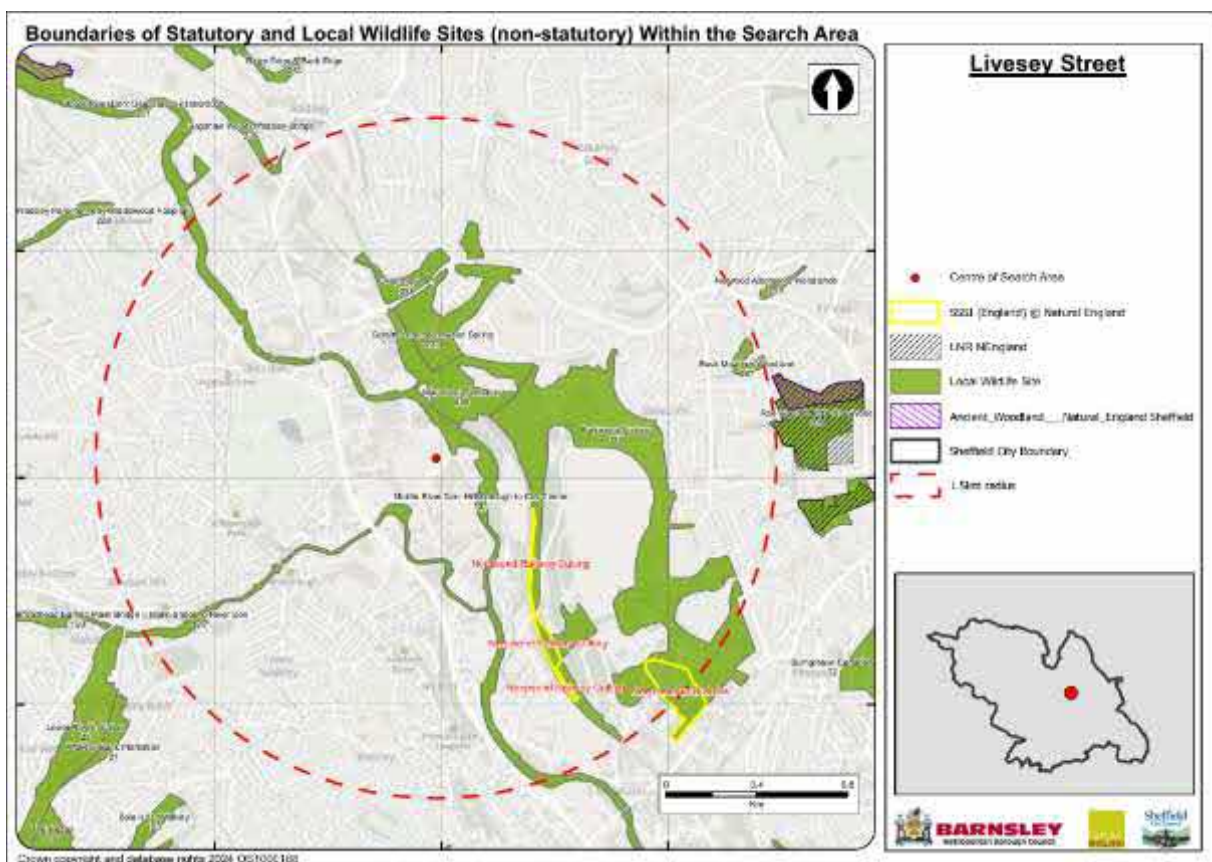


Figure 3.1 Statutory and Local Wildlife Sites (LWS) within 1.5km of the Site boundary.

Within 5km there are four Sites of Special Scientific Interest (SSSI) and one Local Nature Reserve (LNR) as detailed below.

Name	Distance from Site	Detail	Impact Risk Zone for planning
Neepsend Railway Cutting SSSI	435m south-east	Geological site	IRZ does not overlie the Site.
Neepsend Brickworks SSSI	1.25km south-east	Geological site	IRZ does not overlie the Site.
Wadsley Fossil Forest SSSI	2.35km north-west	Geological site	Aviation, quarries, poultry and livestock. General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Stannington Ruffs SSSI	3.158km west	Geological site	IRZ does not overlie the Site.
Roe Woods and Crabtree Ponds LNR incorporating Great Roe Wood SINC ancient woodland.	1.425km east	Pipistrelle bats & the rarer Leisler's bat , bluebells & cow parsley. Extensive Oak woodland. Includes ancient woodland.	Not applicable to LNR sites.

#### Local Wildlife Sites

The closest Local Wildlife Site is the Middle River Don: Hillsborough to city centre. This lies approximately 10m east separated from the Site by Livesey Street. The description is as follows:

*The site is a river corridor which runs through the centre of Sheffield. Formerly heavily industrialised, the riverside areas are now becoming residential either by redevelopment of old industrial buildings or new ones being constructed. Islands in the river have developed species-rich vegetation and provide valuable sanctuary areas for a variety of wildlife, including invertebrates and birds. Riparian habitats include broad-leaved woodland, scrub, tall and short herbaceous vegetation, walls and a number of old, disused buildings.*

*Although it was formerly heavily polluted and much abused, the River Don has undergone a renaissance over the past 25 years. The water quality is now good enough to support a wide range of aquatic life. Rivers and Running water are listed on the UKBAP 'priority' habitats list and are also on the NERC S41 list of 'habitats of principal importance'.*

*The vegetation on the islands and along the riverbanks includes ancient woodland indicators species such as pendulous sedge (*Carex pendula*), wood anemone (*Anemone nemorosa*) and dog's mercury (*Mercurialis perennis*).*

*Birds nesting on the riverbanks include kingfisher (*Alcedo atthis*), (a W&CA Schedule 1 protected species and LRDB species), sand martin (*Riparia riparia*) and grey wagtail (*Motacilla cinerea*). Black redstart (*Phoenicurus ochruros*), another W&CA Schedule 1 protected species has been recorded nesting in buildings close to the river. The presence of these birds as well as regular sightings of grey heron (*Ardea cinerea*) suggests a rich aquatic fauna. Brown trout (*Salmo trutta*) have been recorded in the river. This is an internationally threatened species listed in both the UKBAP and NERC S41 lists.*

*Otter (*Lutra lutra*), a W&CA Schedule 5 protected species prioritised in the UKBAP and LBAP as well as the NERC S41 list have been recorded on this stretch of the River Don since 2006. Other protected mammal species such as pipistrelle bat (*Pipistrellus pipistrellus*) have been recorded using the river corridor. The river acts as a valuable wildlife corridor for a wide range of other species. A variety of invertebrate species have been recorded utilizing the river habitats including common darter (*Sympetrum striolatum*), an LBAP 'priority' species.*

Wardsend Cemetary lies beyond the River Don approximately 105m to the north-east at its closest point: this is a biological SINC. The description is as follows:

*This cemetery still has standing headstones and other ornate stonework. The upper section is dominated by a large stand of bracken punctuated with the occasional multi-stemmed sessile oak or silver birch. The lower section is dominated by sycamore with the occasional oak or ash. The undergrowth is made up of ivy, bramble and sycamore seedlings. There are areas of acid grassland in both sections, and one such patch in the lower section contains heathland species. The north-western part of the lower cemetery is dominated by oak and silver birch with bracken. Ferns and exotic shrubs are present. The site is to the east of the nearby River Don.*

*Bluebells are present throughout the cemetery, especially abundant in the lower sycamore dominated area. Small areas of heather and bilberry are also present in the higher, more acidic areas. The common lizard has also been noted in recent years within the cemetery boundary. Trailing St John's wort is a national red data list species and also occurs on site. Green woodpeckers use the site regularly. Though only small, the areas of heath/grass mosaic should be noted (nearby Park Wood Springs contains larger areas of this nationally threatened habitat). The area is noted for butterflies.*

Beyond Wardsend Cemetary and the River Don lie Parkwood Springs, Scraith Wood and Rawson Spring, and Oxspring Dam. Scraith Wood SINC is ancient woodland including bluebell and western gorse. The woods provide roosts for bats. Parkwood Springs comprises a mosaic of biological and geological features. Its main ecological interest is heath, important for invertebrates and reptiles. Woodland and scrub was recently planted. Breeding birds, flora, and invertebrates are notably diverse at this LWS. Oxspring Dam is a former millpond, important for foraging bats, aquatic vegetation, dragonflies and damselflies.

Other LWS lie within the 1.5km buffer around the Site however due to the presence of intervening development (such as industrial, commercial or residential properties) or substantial barriers to dispersal (such as roads or fast flowing watercourses), these are not considered to have significant connectivity to the Site and are not thought relevant to this assessment.

### 3.1.3 Biodiversity Action Plans

UK Biodiversity Action Plans (BAPs) have been developed which set priorities for nationally important habitats and species. To support the BAPs, Species/Habitat Statements (otherwise known as Species/Habitat Action Plans or SAPs and HAPs) were produced that provide an overview of the status of the species and set out the broad policies that can be developed to conserve them. A list of priority species of conservation importance was also developed.

The UK BAP was succeeded in 2012 by the UK-Post 2012 Biodiversity Framework which informed the creation of the Biodiversity 2020 strategy; England's contribution towards the UK's commitments under the United Nations Convention of Biological Diversity.

Despite this, the UK BAP priority species lists and conservation objectives still remain valid through integration with local BAPs (which remain valid), and in the form of the Habitats and Species of Principle Importance list (as required under section 41 of the Natural Environment and Rural Communities (NERC) Act).

Sheffield has produced Habitat Action Plans for four habitat types: woodland, heathland, grassland and wetland.

A map of LBAP priority habitats was provided by SBRC as shown in Figure 3.2 below. The main LBAP habitat is deciduous woodland, the closest parcel of which lies 10m east from the Site.

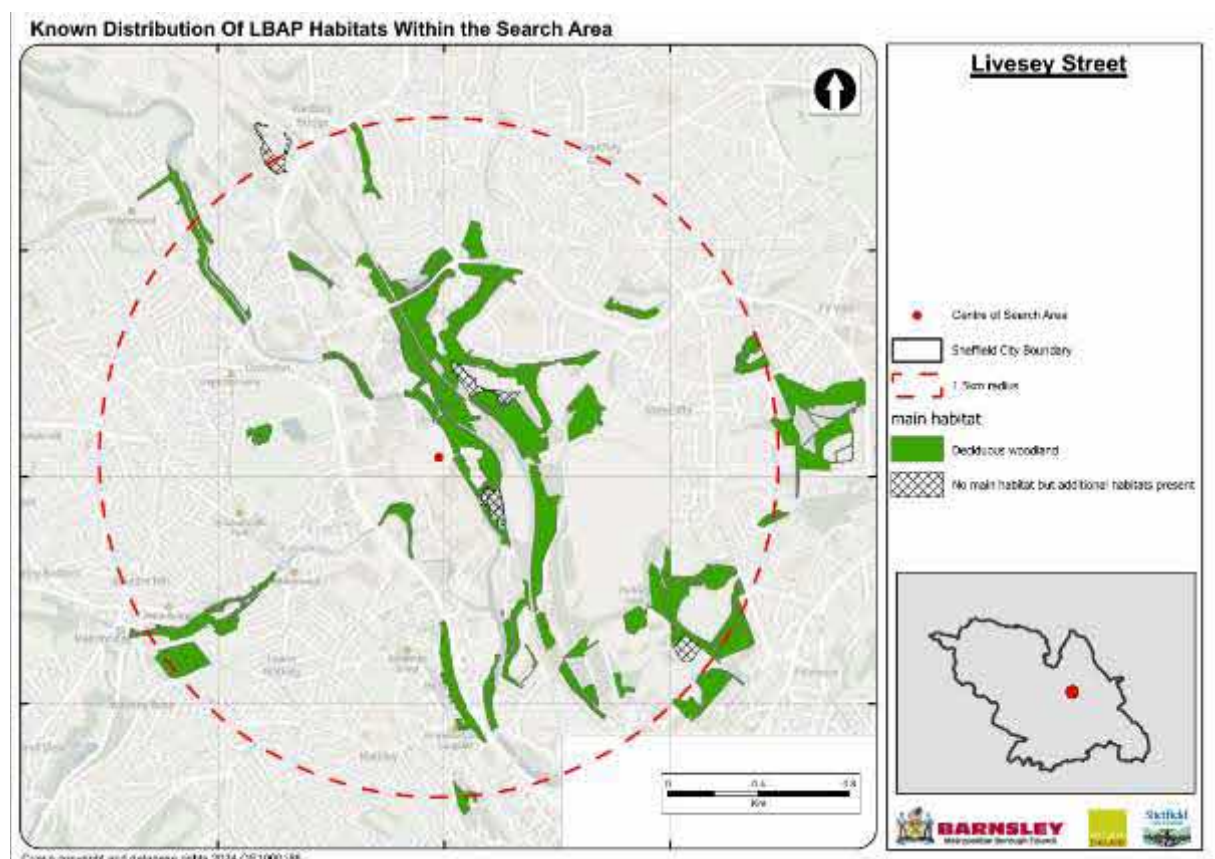


Figure 3.2 LBAP habitats within 1.5km around the Site

### 3.1.4 Species Records

The information provided in the biological data search from SBRC identified records of a number of protected and priority species within 1.5km search radius of the site. Among others, these include the following species:

- Mammals: brown hare, otter, hedgehog, water vole, ██████████
- Bats: Soprano pipistrelle (BAP), noctule (BAP), Daubenton's, Leisler's, common pipistrelle.
- Invasive species: mink.
- Bird species (WCA<sup>4</sup>): barn owl, brambling, fieldfare, greylag goose, kingfisher, merlin, peregrine falcon, pintail, red kite, redwing.
- Bird species (BAP): Cuckoo, Grey Partridge, House Sparrow, Lapwing, Reed Bunting, Spotted Flycatcher, Yellowhammer.
- Amphibians: common frog, common toad (BAP).
- BAP butterflies: Small Heath, Wall, White Letterstreak.
- BAP moths: Cinnabar, Oak Hook-tip.

Although no records of reptiles were provided as part of the desk study search, the citations for the LWS detailed above mentions that common lizard has been recorded within Wardsend Cemetary (closest point to Site approximately 135m north however beyond the River Don which would comprise an effective barrier to dispersal). An informal discussion with the SBRC records officer relating to reptiles reported that beyond 2km from the Site, individual records of reptiles had been recorded historically, but with no records arising from recent surveys.

The MAGIC dataset provides information on protected species licensing records:

- There are three records of bat licences within the area, the most recent dating from 2021 being for the destruction of resting places of common pipistrelle, and soprano pipistrelle bat. The two other licences are much older, and relate to common pipistrelle.

## 3.2 Field Survey

### 3.2.1 Habitats

A map showing the habitats recorded is provided below as Figure 3.3. Photos are presented in Appendix A. The habitats presented across the assessment site consist of the following UKHab categories:

- u1c: Artificial unvegetated unsealed surface
- u1b: Developed land: sealed surface
- u1f: sparsely vegetated unsealed surface
- g4: Modified grassland
- h3d: Bramble scrub

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<sup>4</sup> WCA –Wildlife and Countryside Act 1981.

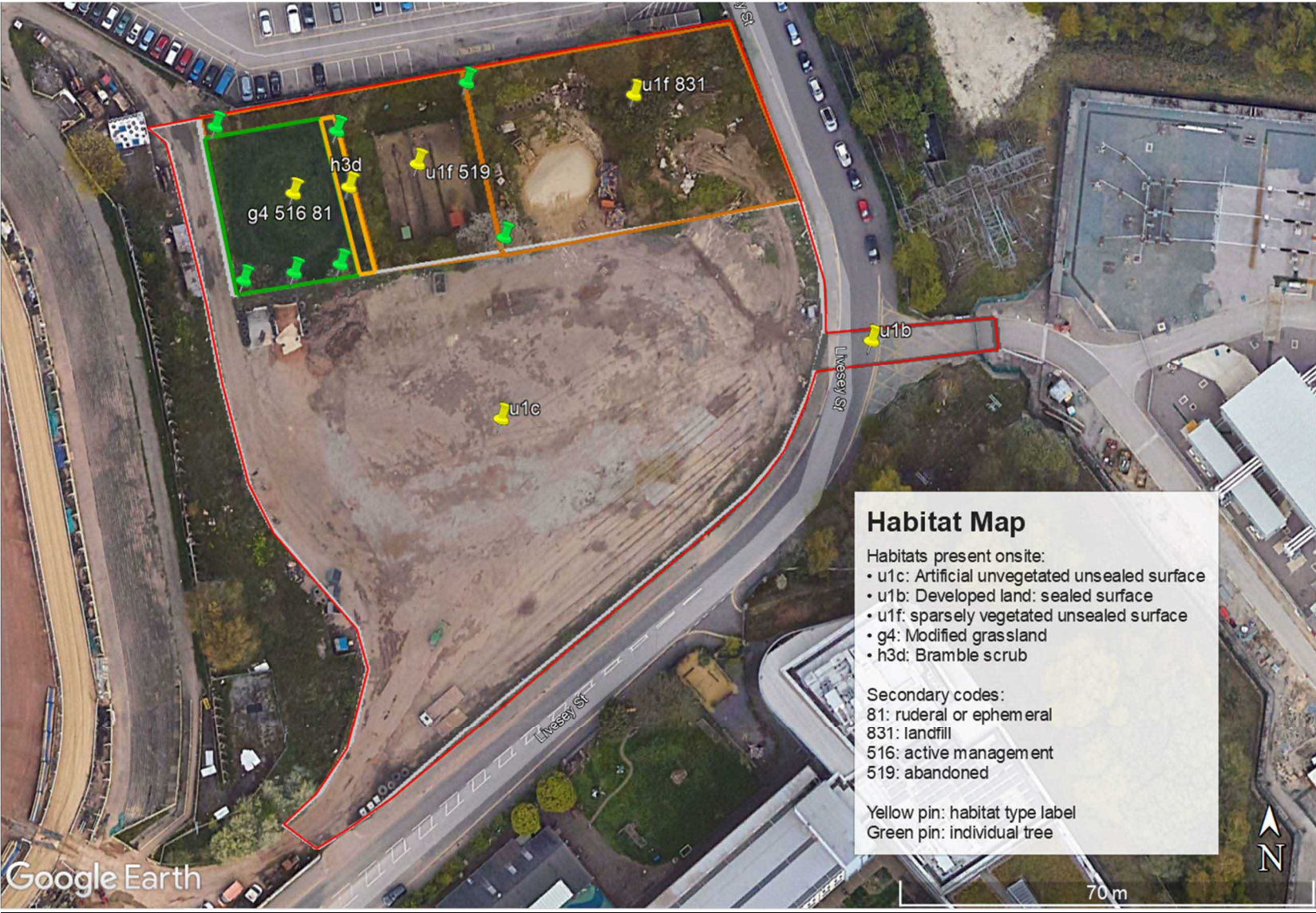


Figure 3.3 Habitat map of the Site using the UKHab classification

*u1c: Artificial unvegetated unsealed surface*

This is the dominant habitat at the Site covering approximately 70% of its area. It is used for drag racing and associated event vehicles and is entirely devoid of plant species except very small patches of ruderal and ephemerals amongst waste around the edges of the Site. Small areas comprise concrete hardstanding (sealed surface) however these are hidden beneath sand and soil. The ecological value is nil for both surface types, so they have been mapped together.

*u1b: Developed land: sealed surface*

Livesey Street is surfaced with hardstanding.

*u1f: sparsely vegetated unsealed surface*

Approximately 20% of the Site comprises this habitat, occurring over landfilled waste and a former racetrack circuit in the north-east of the Site. Plant cover was extremely patchy with much bare ground present. Plant species observed were limited to extremely common and widespread ruderal and ephemeral species characteristic of disturbed and urban sites. Species observed are reported along with photographs of the Site in Appendix A. Scrub species observed included bramble and buddleia.

*g4: Modified grassland*

This habitat was present in the north-east of the Site, and appeared to be under recent or active management, with mowing to maintain the area likely as a facility for staff from the adjacent stadium to use on sunny days for breaks. Grasses were the dominant species, mainly red fescue (*Festuca rubra*) and perennial ryegrass (*Lolium perenne*). Evidence of broadleaf injurious weeds such as docks and nettle as well as a limited number of common ruderal and ephemeral species were present scattered through the sward, indicative of nutrient-rich soils.

Although the survey was undertaken outside the optimal season, the ground conditions, greenness of the sward and ruderals present indicated that the grassland does not comprise a higher value habitat type (such as g3c other neutral grassland). A further survey is not recommended.

*h3d: Bramble scrub*

A band of bramble was present within the plot containing the modified grassland. Bramble also covered waste mounds present around the northern area of the Site, however these areas were too small to map.

*Individual trees*

Seven individual trees (>5m tall and DBH >0.05m) were present within the north-east former race circuits; these were marked on the habitat map as green pins. The trees were semi-mature / mature trees and included elder (*Sambuca nigra*), bird cherry (*Prunus padus*), hawthorn (*Crataegus monogyna*) and apple (*Malus domestica*). These likely originated as landscaping when the area was in active use as part of the adjacent Owlerton Stadium. No trees were present within landfilled areas or anywhere else onsite.

*Connectivity / Linear habitats*

The entire Site was surrounded by a concrete panel fence, severely curtailing connectivity with the surrounding habitats offsite. Only one hole was present within the concrete panel fence where the

weight of landfilled waste had burst part of the fence. This provided limited connectivity to the Site in just one location. A gap beneath a gate in the south of the Site lies away from any natural habitats either on or offsite.

No linear habitats such as hedges were present.

### 3.2.2 Species

#### Breeding birds

Trees and scrub onsite had moderate potential to support breeding passerines; one old nest was observed (see red pin on habitat map). No breeding signs were observed during the survey. The only birds seen were passing over or present on the adjacent stadium: a blackbird and a common gull (*Larus canus*).

#### Reptiles

The Site had negligible to low potential for reptiles. There is a long-existing area of sparsely vegetated land with patches of scrub; such habitat is typically considered suitable for reptiles. There is limited connectivity through a hole in the fence. The proximity of the adjacent river corridor and Wardsend Cemetary beyond (with historic records of common lizard) also increase the potential. This is however countered by the activities undertaken at the Site (intermittent landfilling) and presence of waste materials which reduce the suitability of the Site overall; large voids within stacked waste tyres were present in multiple locations and may represent hazards to small animals and certainly are not ideal habitat. Overall there is a very low risk that a small number of reptiles may be present at the Site in the limited suitable habitat in the north of the Site.

#### Bats

There were no structures present onsite suitable to provide bat roosts.

The Site had negligible potential to support individual foraging bats as the vegetated area is very small and surrounded by hardstanding or bare ground. Individual foraging or commuting bats may very occasionally make single passes overhead in the north of the Site.

Offsite 10m to the east, there is presence of much better habitat in the form of the adjacent river corridor and extensive areas of deciduous woodland habitat which will be preferred by foraging bats. This habitat is considered to have high potential.

#### Other protected species

The Site had no potential to support other protected species, as suitable habitat, features and appropriate connectivity were absent.

The concrete panel fence, Livesey Street itself (with lack of vegetative cover) and fences along the edge of Livesey Street to the east provide an effective barrier for mobile species such as otter or hedgehog. No signs of any protected species were noted onsite s [REDACTED]

No waterbodies were present onsite that might support great crested newt, and none were identified within 250m from aerial photography / satellite imagery.

Despite the proximity to the River Don corridor, no suitable habitat exists onsite for water vole or otter, and there is no connectivity.



## 4 Assessment

### 4.1 Ecological Baseline

The ecological receptors present that may potentially be impacted by the proposed development are listed in Table 4.1 below –these represent the ecological baseline. Brief commentary is provided on potential impacts and suggested mitigation, with further information provided below.

*Table 4.1 Ecological receptors identified to be present onsite and within the Zone of Influence.*

Receptor	Presence / Potential Presence	Commentary
Nationally designated sites	Roe Woods and Crabtree Ponds LNR 1.45km east	The intervening distance and limited connectivity of the Site with the surrounds mean that no impacts are likely to occur to the designated Site as a result of the proposed development.
Local Wildlife Sites	Middle River Don: Hillsborough to city centre 10m east	The river corridor should be protected from impacts during construction through production of a Construction Environmental Management Plan (CEMP). Operational impacts are not anticipated due to the contained nature of the development proposals.
	Wardsend Cemetery 105m north-east and other LWS beyond	The sites should be protected from impacts during construction through production of a Construction Environmental Management Plan (CEMP). Operational impacts are not anticipated due to the contained nature of the development proposals.
LBAP habitats	Deciduous woodland present along the River Don river corridor from 10m distant.	Woodland should be protected from impacts during construction through production of a Construction Environmental Management Plan (CEMP). Operational impacts are not anticipated due to the contained nature of the development proposals.
Breeding birds	Moderate potential	Clearance should be undertaken outside the breeding season (March to August inclusive) or otherwise an inspection for breeding birds of suitable trees and scrub should be undertaken by an ecologist prior to site clearance.
Reptiles	Low / negligible potential	There is a very low risk that small numbers of reptiles may be present at the Site. To prevent harm to individual animals, an ecological watching brief should be undertaken during the initial site clearance of surface waste materials.
Foraging bats	Negligible potential onsite	Lighting for the Site (such as security lighting) should be carefully designed so as not to spill light onto adjacent natural habitats. This applies both at the

	High potential in the surrounds	construction and operational stages of the development.
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## 4.2 Mitigation Requirements

### 4.2.1 Designated sites and LBAP habitats

Adjacent receptors such as the River Don corridor, deciduous woodland, and a small number of Local Wildlife Sites should be protected from impacts during construction. Impacts may include generation of dust, noise, vibration and silty or polluted runoff.

A Construction Environmental Management Plan (CEMP) should be produced to ensure any potential impacts are carefully controlled to avoid significant effects.

### 4.2.2 Species

#### Breeding birds

All wild birds are protected under the Wildlife and Countryside Act (1981) (as amended) whilst breeding. This legislation protects nests, eggs and unfledged young from damage or destruction.

Development work should avoid removing trees and shrubs between 1st March and 31st August (the breeding bird season).

If clearance is required during this period, a check for nests should be undertaken by an ecologist prior to works commencing. If nests are found, the area and a 5m buffer should be protected from disturbance until the chicks have fledged and left the nest.

#### Reptiles

Common lizard, grass snake, adders and slow worms are protected from killing or injury under the Wildlife and Countryside Act (1981) (as amended).

At the construction stage, the initial stage of site clearance should be undertaken under an ecological watching brief. These initial works should ideally be undertaken when reptiles are active (i.e March to October inclusive). Progressively working from south to north, loose waste materials present at the surface of the landfill should be checked for reptiles, and then carefully lifted by hand if possible. Voids should be checked using a torch or camera on a pole to view inaccessible crevices.

If any reptiles are discovered, these should be carefully removed by hand and translocated across Livesey Street to the adjacent river corridor, as this is the closest natural habitat.

Once loose materials have been removed from the surface, works may then proceed without further supervision, using machinery.

### Foraging bats

Care should be taken with security lighting during construction, ensuring that lights are directional and there is no light spill onto the river corridor across the street from the Site.

To ensure no impacts to commuting bats, lighting for the operational phase should be designed by a lighting consultant in accordance with best practice guidance:

- Bat Conservation Trust and Institute of Lighting Professionals (2023). Guidance Note GN08/23. Bats and artificial lighting at night.<sup>5</sup>

The scheme should include directional lighting, appropriate luminescence and colour temperature (<2700k) and protection from light spill and should ensure that all lighting is designed, operated and maintained under best practice conditions.

### Other species

During construction, as long as the concrete panel fence around the site remains intact this will prevent mobile animals such as foxes [REDACTED] from straying into the Site.

If fences are removed and any gaps beneath new fencing might allow access to these animals, excavations should have ramps placed in them to ensure any animals that fall in can escape.

## 4.3 Enhancement Recommendations

The impact of the proposed development will be relatively low, affecting only small areas of low distinctiveness habitats, and 7 semi-mature trees will be lost.

There is no opportunity to provide any natural habitats at ground level within the proposed development. There are two reasons for this. Firstly the necessary high wall / fencing around the Site will overshadow any land used for planting, and the planted habitats would not be expected to thrive. Furthermore, due to the high voltage transformers and associated switchgear, also maintaining landscaping within a high voltage compound would not be advisable. It is therefore not possible to provide planting as part of the proposed development.

There is an emergency access that will be maintained for the stadium adjacent, and a small area of land immediately to the east of this access may potentially be available for planting. Opportunities to implement areas of green roof should be explored, as open flower-rich habitat would benefit invertebrates, and may provide opportunities for feeding and nesting birds or bats (if bird and bat boxes were also provided). Alternatively planting within the public domain might be possible subject to discussions with Sheffield City Council –street trees might be provided to replace the trees lost from the Site. Planting (e.g. green wall arising from planters) may also be possible on the street facing walls of the Site, although this will not provide significant ecological enhancement.

Overall it is considered that enhancements could be more strategically placed (i.e. using an offsetting approach) to provide greater ecological benefit given the proposed development requires the entire red line boundary.

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<sup>5</sup> Bat Conservation Trust (BCT) & Institute of Lighting Professionals (ILP) (2023). GN08/23 Bats and artificial lighting. Available: [Guidance Note 8 Bats and Artificial Lighting | Institution of Lighting Professionals \(theilp.org.uk\)](https://theilp.org.uk)

Enhancements for species such as boxes for bats and birds would depend on the provision of natural habitat and therefore no recommendations have been made, given the nature of the proposals.

### 4.3.1 Biodiversity Net Gain

New development in the UK is required to provide a 10% net gain for biodiversity (see gov.uk website<sup>6</sup> for further details). The relevant primary legislation for the statutory framework for biodiversity net gain is principally set out under Schedule 7A (Biodiversity Gain in England) of the Town and Country Planning Act 1990. This legislation was inserted into the 1990 Act by Schedule 14 of the Environment Act 2021, and was amended by the Levelling Up and Regeneration Act 2023. The Biodiversity Gain (Town and Country Planning) (Consequential Amendments) Regulations 2024 made consequential amendments to other parts of the 1990 Act.

It is understood the planning application was submitted prior to the April 4<sup>th</sup> 2024 deadline whereby a 10% net gain would be required.

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<sup>6</sup> [Biodiversity net gain - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

## 5 Summary

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Green Frog Power (Livesey Street) Ltd instructed Harper Environmental Ltd to carry out a Preliminary Ecological Appraisal for a proposed development of land at Livesey Street, Sheffield.

The assessment was undertaken in order to establish the ecological value of this site and its potential to support notable and/or legally protected species.

The site survey undertaken on the 10<sup>th</sup> April identified low ecological value onsite with small areas of sparsely vegetated land, bramble scrub and modified grassland. Seven mature trees were present and self-set saplings. An old bird's nest was noted in one tree. There was moderate potential onsite for breeding birds, and negligible to low potential for reptiles. Occasional bats may briefly forage or commute across the Site. No potential for any other protected or notable species was identified.

Within the zone of influence (20m buffer of development) across Livesey Street the River Don corridor (a Local Wildlife Site) is present along with the LBAP priority habitat of deciduous woodland. Further LWS are present beyond the river corridor, including Wardsend Cemetary where historic records of common lizard are known.

Recommendations have been made to avoid impacts to ecological receptors onsite and in the vicinity. Clearance of the Site should ideally occur in the months when reptiles are active (March to October). If vegetation is cleared during the bird breeding season, an ecologist should check for any active nests before scrub and trees are removed. At the very start of site clearance for landfilled materials, an ecological watching brief should be undertaken by an ecologist to oversee clearance of loose surface waste materials, to ensure that in the unlikely scenario that reptiles are present, these may be translocated to adjacent suitable habitat without harm occurring. A CEMP should be provided prior to construction commencing (typically secured as part of a pre-commencement planning condition) to ensure no impacts arise from dust, noise, vibration and runoff during construction. Security lighting during construction should ensure not to spill light onto adjacent habitats. A lighting plan for the operational development should be designed in line with best practice guidance to avoid impacts to foraging and commuting bats.

With regard to ecological enhancement, although no suitable locations for onsite planting appear to exist, there may be creative solutions such as within the public domain on the street front for Livesey Street. Alternatively, creation of habitat offsite may be explored, to replace lost trees and provide a net gain for biodiversity.

# Appendix A Photos of the Site

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*Amenity grassland in north-west of Site. Semi-mature bird cherry tree and small area of bramble scrub against concrete panel fence.*



*Sparsely vegetated unsealed surface – moss, patches of nettles, broadleaf dock, willowherbs (*Epilobium* spp), creeping buttercup, ragwort, spear and creeping thistle interspersed with bare ground. Small areas of bramble around edges too small to map.*



*Self-set saplings too young to be considered trees growing around edge of sparsely vegetated unsealed surface.*



*Old bird nest present in the north of the Site (see red pin on habitat map).*

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*Section of landfilled sparsely vegetated unsealed surface, sand in front with colonising grasses, waste tyres, covered to rear with soil; voids present within stacked tyres.*



*Further view of landfilled sparsely vegetated unsealed surface, sand in front with colonising grasses, waste tyres, covered to rear with soil; voids present within stacked tyres. Coltsfoot, nettle mugwort, bramble, broadleaf dock,*



*Steeply landfilled area of landfilled sparsely vegetated unsealed surface.*



*Top area of landfill – buddleia, nettles thistles docks and bare ground, occasional burdock.*



*View south from north-east landfill area.*



*View from landfill towards the National Grid facility across Livesey Street*

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*View of southern boundary concrete panel fence*



*View from south of site facing north-east towards main landfilled area. Bare ground in foreground is the dominant habitat at the Site.*



*View from south of site facing north-west to boundary of the Site with the adjacent stadium.*



*View from south of site facing centre - north.*

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